

Author index

- Ali Y.O. & Wickins J.F.: The use of fresh food supplements to ameliorate moulting difficulties in lobsters, *Homarus gammarius* (L.), destined for release to the sea, 483
- Allan G.L. & Maguire G.B.: The use of model ponds to evaluate phytoplankton blooms and benthic algal mats for *Penaeus monodon* Fabricius culture, 235
- Ando S., Fukuda N., Mori Y., Sugawara A. & Heard W.R.: Characteristics of carotenoid distribution in various tissues from red- and white-fleshed chinook salmon, *Oncorhynchus tshawytscha* (Walbaum), 113
- Ang K.J., see Maclean M.H.
- Arnesen A.M., see Halvorsen M.
- Austin C.M., see Mitchell B.D.
- Bai S.C. & Gaitlin III D.M.: Effects of L-lysine supplementation of diets with different protein levels and sources on channel catfish, *Ictalurus punctatus* (Rafinesque), 465
- Bao-Tong, Hu.: Cage culture development and its role in aquaculture in China, 305
- Barnabé G. & Guissi A.: Adaptations of the feeding behaviour of larvae of the sea bass, *Dicentrarchus labrax* (L.), to an alternating live-food/compound-food feeding regime, 537
- Barth T., see Glubokov A.I.
- Barthelemy L., see Simon B.
- Benatti G., see Zoccarato I.
- Benfey T.J., see Saunders R.L.
- Bentsen H.B.: Genetic effects of selection on polygenic traits with examples from Atlantic salmon, *Salmo salar* L., 89
- Bergero D., Boccignone M., Di Natale F., Forneris G., Palmegiano G.B., Roagna L. & Sicuro B.: Ammonia removal capacity of European natural zeolite tufts: application to aquaculture waste water, 813
- Beveridge M.C.M., see Martinez Cordero F.J.
- Bianchini M.L., see Zoccarato I.
- Bjordal Å., see Juell J.-E.
- Boccignone M., see Bergero D.; Zoccarato I.
- Booma G.H.R., see Schippers C.
- Boon J.H., see Schippers C.
- Boonyaratpalin M., see Phromkunthong W.
- Born A.F., Verdegem M.C.J. & Huisman E.A.: Macro-economic factors influencing world aquaculture production, 519
- Botnen H.B., see Johannessen P.J.
- Briggs M.R.P. & Funge-Smith S.J.: A nutrient budget of some intensive marine shrimp ponds in Thailand, 789
- Briggs M.R.P., Brown J.H. & Fox C.J.: The effect of dietary lipid and lecithin levels on the growth, survival, feeding efficiency, production and carcass composition of post-larval *Penaeus monodon* Fabricius, 279
- Brown J.H., see Briggs M.R.P.; Maclean M.H.
- Buchanan B., see Carter C.G.
- Bult T.P., see Nijhof M.
- Burke J.B.: Larvae of Australian bass, *Macquaria novemaculeata* (Steindachner 1866), can survive low salinities within 7 days of hatching, 579
- Carral J.M., Celada J.D., González J., Sáez-Royuela M. & Gaudiosi V.R.: Mating and spawning of freshwater crayfish, *Austropotamobius pallipes* Lereboullet, under laboratory conditions, 721
- Carter C.G., Houlihan D.F., Buchanan B. & Mitchell A.I.: Growth and feed utilization efficiencies of seawater Atlantic salmon, *Salmo salar* L., fed a diet containing supplementary enzymes, 37
- Celada J.D., see Carral J.M.
- Chang P.-S. & Chen S.-N.: Effect of *Penaeus monodon*-type baculovirus (MBV) on survival and growth of larval *Penaeus monodon* Fabricius, 311
- Chang W.Y.B., see Springborn R.R.
- Charalambakis G., see Kentouri M.
- Chen S.-N., see Chang P.-S.
- Cherfas N.B., Gomelsky B.I., Emelyanova O.V. & Recoubratsky A.V.: Induced diploid gynogenesis and polyploidy in crucian carp, *Carassius auratus gibelio* (Bloch), × common carp, *Cyprinus carpio* L., hybrids, 943
- Christiansen R., Lie Ø. & Torrisen O.J.: Effect of astaxanthin and vitamin A on growth and survival during first feeding of Atlantic salmon, *Salmo salar* L., 903
- Collins R.O., see Mitchell B.D.
- Conti A., see Zoccarato I.
- Contreras Gómez A., see Molina Grima E.
- Courtney H.P., see Wilkins N.P.
- Crozier W.W.: Maintenance of genetic variation in hatchery stocks of Atlantic salmon, *Salmo salar* L.: experiences from the River Bush, Northern Ireland, 383
- Cruz E.M. & Ridha M.: Overwintering tilapia, *Oreochromis spilurus* (Günther), fingerlings using warm underground sea water, 865
- Curatolo A., see Wilkins N.P.
- Dathatri K., see Nandeepsha M.C.
- De Silva S.S., see Nandeepsha M.C.
- Di Natale F., see Bergero D.
- Dinis M.T., see Soares F.
- Divanach P., see Kentouri M.
- Duncan J.R., see Knauer J.
- Dushkina L.A.: Farming of salmonids in Russia, 121
- Duston J., see Saunders R.L.
- Elvingson P. & Nilsson J.: Phenotypic and genetic parameters of body and compositional traits in Arctic charr, *Salvelinus alpinus* (L.), 677
- Emelyanova O.V., see Cherfas N.B.
- Epler P., see Mikolajczyk T.
- Fernandez-Palacios H., see Rodriguez C.
- Fernö A., see Juell J.-E.

- Fevolden S.E., Taubøl T. & Skurdal J.: Allozymic variation among populations of noble crayfish, *Astacus astacus* L., in southern Norway: implications for management, 927
- Finstad B., Johnsen B.O. & Hvidsten N.A.: Prevalence and mean intensity of salmon lice, *Lepeophtheirus salmonis* Krøyer, infection on wild Atlantic salmon, *Salmo salar* L., postsmolts, 761
- Forneris G., see Bergero D.
- Fox C.J., see Briggs M.R.P.
- Fukuda N., see Ando S.
- Funge-Smith S.J., see Briggs M.R.P.
- Furevik D., see Juell J.-E.
- Gabaudan J., see Verlhac V.
- Gaitlin III D.M., see Bai S.C.
- García Camacho F., see Molina Grima E.
- Gaudioso V.R., see Carral J.M.
- Gerard A., Naciri Y., Noiret C., Ledu C., Peignon J.-M. & Phelipot P.: Induced triploidy in the European clam, *Ruditapes decussatus* (L.), and performance of triploid larvae, 769
- Gerard A., Naciri Y., Peignon J.-M., Ledu C. & Phelipot P.: Optimization of triploid induction by the use of 6-DMAP for the oyster *Crassostrea gigas* (Thunberg), 709
- Gerard A., Naciri Y., Peignon J.-M., Ledu C., Phelipot P., Noiret C., Pseudenier I. & Grizel H.: Image analysis: a new method for estimating triploidy in commercial bivalves, 697
- Gillespie M., see Martinez Cordero F.J.
- Gislason G., Olsen R.E. & Ringø E.: Lack of growth-stimulating effect of lactate on Atlantic salmon, *Salmo salar* L., 861
- Glubokov A.I., Kouril J., Mikodina E.V. & Barth T.: Effect of synthetic GnRH analogues and dopamine antagonists on the maturation of Pacific mullet, *Mugil so-iuy* Bas, 419
- Gomelsky B.I., see Cherfas N.B.
- González J., see Carral J.M.
- Gorka R., see Mikolajczyk T.
- Gosling E., see Wilkins N.P.
- Green B.W. & Teichert-Coddington D.R.: Growth of control and androgen-treated Nile tilapia, *Oreochromis niloticus* (L.), during treatment, nursery and grow-out phases in tropical fish ponds, 613
- Grizel H., see Gerard A.
- Gross R. & Wohlfarth G.W.: Use of genetic markers in growth testing of common carp, *Cyprinus carpio* L., carried out over 2 or 3 year cycles, 585
- Guissi A., see Barnabé G.
- Haffray P., see Lecommandeur D.
- Haider S. & Rao N.V.: Induced spawning of maturing Indian catfish, *Clarias batrachus* (L.), using low doses of steroid hormones and salmon gonadotropin, 401
- Halvorsen M., Arnesen A.M., Nilssen K.J. & Jobling M.: Osmoregulatory ability of anadromous Arctic charr, *Salvelinus alpinus* (L.), migrating towards the sea, 199
- Harrell R.M., see Reardon I.S.
- Hassan M.A. & Jafri A.K.: Optimum feeding rate, and energy and protein maintenance requirements of young *Clarias batrachus* (L.), a culturable fish catfish species, 427
- Heard W.R., see Ando S.
- Hecht T., see Knauer J.
- Hemre G.I., see Ottera H.
- Hettiarachchi M., see Inyang N.M.
- Hordvik I.: Immune genes of the Atlantic salmon, *Salmo salar* L.: application of modern molecular genetic techniques to the study of antibodies and major histocompatibility complex antigens, 47
- Houlihan D.F., see Carter C.G.
- Huisman E.A., see Born A.F.
- Hulata G., see Rosenstein S.
- Huse I.: Feeding at different illumination levels in larvae of three marine teleost species: cod, *Gadus morhua*, L., plaice, *Pleuronectes platessa* L., and turbot, *Scophthalmus maximus* (L.), 687
- Huse I., see Juell J.-E.
- Hvidsten N.A., see Finstad B.
- Inyang N.M. & Hettiarachchi M.: Efficacy of human chorionic gonadotropin (hCG) and crude pituitary extract of fish and frog in oocyte maturation and ovulation in African catfish, *Clarias gariepinus* Burchell, 1822 and *Clarias anguillaris* L., 1762, 245
- Izquierdo M.S., see Rodriguez C.
- Jafri A.K., see Hassan M.A.
- Jauncey K., see Maclean M.H.; Soliman A.K.
- Jensen A.L., see Springborn R.R.
- Jobling M., see Halvorsen M.
- Johannessen P.J., Botnen H.B. & Tvedten Ø.F.: Macrobenths: before, during and after a fish farm, 55
- Johnsen B.O., see Finstad B.
- Johnstone R. & Maclachlan P.M.: Further observations on the sex inversion of Atlantic salmon, *Salmo salar* L., using 17 α methyl testosterone, 855
- Jordan C., see Wilkins N.P.
- Juell J.-E., Bjordal Å., Fernö A. & Huse I.: Effect of feeding intensity on food intake and growth of Atlantic salmon, *Salmo salar* L., in sea cages, 453
- Juell J.-E., Fernö A., Furevik D. & Huse I.: Influence of hunger level and food availability on the spatial distribution of Atlantic salmon, *Salmo salar* L., in sea cages, 439
- Kavumpurath S. & Pandian T.J.: Induction of heterozygous and homozygous diploid gynogenesis in *Betta splendens* (Regan) using hydrostatic pressure, 133
- Kavumpurath S. & Pandian T.J.: Musculinization of fighting fish, *Betta splendens* Regan, using synthetic or natural androgens, 373
- Kentouri M., O'Neill D., Divanach P. & Charalamakis G.: A study on the quantitative water requirements of red porgies, *Pagrus pagrus* L. (Pisces: Sparidae), during early on-growing

- under self-feeding conditions, 741
 Keshavanath P. & Matty A.J.: Growth-promoting potential of human chorionic gonadotropin (HCG) in common carp, *Cyprinus carpio* (L.), 881
 Khalil A.M.: Influence of starvation, body size and temperature on ammonia excretion in the marine bivalve *Tapes decussatus* (L.), 839
 Khan M.S.: Apparent digestibility coefficients for common feed ingredients in formulated diets for tropical catfish, *Mystus nemurus* (Cuvier & Valenciennes), 167
 Khan M.S.: Effect of population density on the growth, feed and protein conversion efficiency and biochemical composition of a tropical freshwater catfish, *Mystus nemurus* (Cuvier & Valenciennes), 753
 Knauer J., Hecht T. & Duncan J.R.: Proximate composition of the South African abalone, *Haliotis midae* (Haliotidae: Gastropoda), 351
 Kouril J., see Glubokov A.I.
 Krishna Murthy D., see Nandeesha M.C.
 Laing I. & Lopez-Alvarado J.: Effect of dried algae diets on conditioning and fecundity of Manila clam, *Tapes philippinarum* (Adams and Reeve), 157
 Lecommandeur D., Haffray P. & Philippe L.: Rapid flow cytometry method for ploidy determination in salmonid eggs, 345
 Ledu C., see Gerard A.
 Levitt M.S., see Rimmer M.A.
 Lie Ø., see Christiansen R.; Ottera H.
 Linnane A., see Wilkins N.P.
 Lisle A.T., see Rimmer M.A.
 Lopez-Alvarado J., see Laing I.
 Lorenzo A., see Rodriguez C.
 Machiels M.A.M., see Schippers C.
 MacLachlan P.M., see Johnstone R.
 Maclean M.H., Brown J.H., Ang K.J. & Jauncey K.: Effect of organic fertilizer and formulated feed in pond culture of the freshwater prawn, *Macrobrachium rosenbergii* (de Man): pond productivity, 729
 Maclean M.H., Brown J.H., Ang K.J. & Jauncey K.: Effects of manure fertilization frequency on pond culture of the freshwater prawn, *Macrobrachium rosenbergii* (de Man), 601
 Maguire G.B., see Allan G.L.
 Mäkinen T.: Effect of temperature and feed ration on energy utilization in large rainbow trout, *Oncorhynchus mykiss* (Walbaum), 213
 Martinez Cordero F.J., Beveridge M.C.M., Muir J.F., Mitchell D. & Gillespie M.: A note on the behaviour of the Atlantic halibut, *Hippoglossus hippoglossus* (L.), in cages, 475
 Matty A.J., see Keshavanath P.
 McAndrew B.J., see Wong J.T.Y.
 Metcalfe N.B.: The role of behaviour in determining salmon growth and development, 67
 Mikodina E.V., see Glubokov A.I.
 Mikolajczyk T., Roelants I., Sokolowska M., Gorka R. & Epler P.: 'On-pituitary' injection: a novel method for the *in vivo* investigation of secretory function of the pituitary gland in the common carp, *Cyprinus carpio* L., 409
 Mitchell A.I., see Carter C.G.
 Mitchell B.D., Collins R.O. & Austin C.M.: Multi-level refuge utilization by the freshwater crayfish *Cherax destructor* Clark (Decapoda: Parastacidae): a potential harvest and sampling technique, 557
 Mitchell D., see Martinez Cordero F.J.
 Moksness E.: Growth rates of the common wolffish, *Anarhichas lupus* L., and spotted wolffish, *A. minor* Olafsen, in captivity, 363
 Molina Grima E., García Camacho F., Sánchez Perez J.A., Contreras Gómez A. & Valdés Sanz F.: Outdoor turbidostat culture of the marine micro-alga *Tetraselmis* sp., 547
 Mora J., see Rodriguez C.
 Mori Y., see Ando S.
 Muir J.F., see Martinez Cordero F.J.
 Naciri Y., see Gerard A.
 Nandeesha M.C., De Silva S.S., Krishna Murthy D. & Dathatri K.: Use of mixed feeding schedules in fish culture: field trials on catla, *Catla catla* (Hamilton-Buchanan), rohu *Labeo rohita* (Hamilton), and common carp, *Cyprinus carpio* L., 659
 Napolitano R., see Zoccarato I.
 Nijhof M. & Bult T.P.: Metabolizable energy from dietary carbohydrates in turbot, *Scophthalmus maximus* (L.), 319
 Nilssen K.J., see Halvorsen M.
 Nilsson J., see Elvingson P.
 Noiret C., see Gerard A.
 O'Neill D., see Kentouri M.
 Ogburn D.M. & Ogburn N.J.: Use of duckweed (*Lemna* sp.) grown in sugarmill effluent for milkfish, *Chanos chanos* Forskal, production, 497
 Ogburn N.J., see Ogburn D.M.
 Olsen R.E., see Gislason G.; Ringø E.
 Omorogie E., see Ufodike E.B.C.
 Ottera H., Hemre G.I. & Lie Ø.: Influence of dietary water content on feed intake, growth and survival of juvenile Atlantic cod, *Gadus morhua* L., during the weaning process, 915
 Palmegiano G.B., see Bergero D.; Zoccarato I.
 Pandian T.J., see Kavumpurath S.
 Pavlov D.A.: Maturation and artificial fertilization of eggs of captive common wolffish, *Anarhichas lupus* L. from the White Sea, 891
 Peignot J.-M., see Gerard A.
 Perez J.A., see Rodriguez C.
 Peudenier I., see Gerard A.
 Phelipot P., see Gerard A.
 Philippe L., see Lecommandeur D.
 Phimonjinda T., see Phromkunthong W.
 Phromkunthong W., Boonyaratpalin M., Phimonjinda T. & Storch V.: Use of ascorbyl-2-monophosphate-magnesium as a dietary source of ascorbic acid for sea bass, *Lates calcarifer* (Bloch) (Centropomidae), 955

- Pousão-Ferreira P., *see* Soares F.
- Rao N.V., *see* Haider S.
- Reardon I.S. & Harrell R.M.: Effects of varying salinities on the toxicity of potassium permanganate to larval and juvenile striped bass, *Morone saxatilis* (Walbaum), 571
- Recobratsky A.V., *see* Cherfas N.B.
- Reed A.W., *see* Rimmer M.A.
- Ridha M., *see* Cruz E.M.
- Rimmer M.A., Reed A.W., Levitt M.S. & Lisle A.T.: Effects of nutritional enhancement of live food organisms on growth and survival of barramundi, *Lates calcarifer* (Bloch), larvae, 143
- Ringø E. & Olsen R.E.: Lipid nutrition in Arctic charr, *Salvelinus alpinus* (L.): a mini review, 823
- Ringø E. & Strøm E.: Microflora of Arctic charr, *Salvelinus alpinus* (L.): gastrointestinal microflora of free-living fish and effect of diet and salinity on intestinal microflora, 623
- Ringø E.: The effect of chromic oxide (Cr_2O_3) on faecal lipid and intestinal microflora of seawater-reared Arctic charr, *Salvelinus alpinus* (L.), 341
- Ringø E., *see* Gislason G.
- Roagna L., *see* Bergero D.
- Roberts R.J., *see* Soliman A.K.
- Rodríguez C., Pérez J.A., Izquierdo M.S., Mora J., Lorenzo A. & Fernández-Palacios H.: Essential fatty acid requirements of larval gilthead sea bream, *Sparus aurata* (L.), 295
- Roeants I., *see* Mikolajczyk T.
- Rosenstein S. & Hulata G.: Sex reversal in the genus *Oreochromis*: optimization of feminization protocol, 329
- Sáez-Royuela M., *see* Carral J.M.
- Sánchez Pérez J.A., *see* Molina Grima E.
- Saunders R.L., Duston J. & Benfey T.J.: Environmental and biological factors affecting growth dynamics in relation to smolting of Atlantic salmon, *Salmo salar* L., 9
- Schippers C., Ulloa Rojas J.B., Booms G.H.R., Machiels M.A.M., Verdegem M.C.J. & Boon J.H.: A dietary effect on some cellular and humoral blood parameters of rainbow trout, *Oncorhynchus mykiss* (Walbaum), 649
- Sebert P., *see* Simon B.
- Sicuro B., *see* Bergero D.
- Simon B., Barthélémy L., Sebert P. & Tanguy L.: Comparison of some isozymes on the yellow and silver phases of the European eel, *Anguilla anguilla* L., 937
- Skurdal J., *see* Fevolden S.E.
- Soares F., Dinis M.T. & Pousão-Ferreira P.: Development of the swim bladder of cultured *Sparus aurata* L.: a histological study, 849
- Sokolowska M., *see* Mikolajczyk T.
- Soliman A.K., Roberts R.J. & Jauncey K.: Water-soluble vitamin requirements of tilapia: ascorbic acid (vitamin C) requirement of Nile tilapia, *Oreochromis niloticus* (L.), 269
- Springborn R.R., Jensen A.L. & Chang W.Y.B.: A variable growth rate modification of von Bertalanffy's equation for aquaculture, 259
- Storch V., *see* Phromkunthong W.
- Stradmeyer L.: Survival, growth and feeding of Atlantic salmon, *Salmo salar* L., smolts after transfer to sea water in relation to the failed smolt syndrome, 103
- Strøm E., *see* Ringø E.
- Sugawara A., *see* Ando S.
- Tanguy L., *see* Simon B.
- Taugbøl T., *see* Fevolden S.E.
- Teichert-Coddington D.R., *see* Green B.W.
- Thorpe J.E.: Reproductive strategies in Atlantic salmon, *Salmo salar* L.,
- Torrissen O.J., *see* Christiansen R.
- Tvedten O.F., *see* Johannessen P.J.
- Ufodike E.B.C. & Omorogie E.: Acute toxicity of water extracts of barks of *Balanites aegyptiaca* and *Kigelia africana* to *Oreochromis niloticus* (L.), 873
- Ulloa Rojas J.B. & Verdegem M.C.J.: Effects of the protein:energy ratio in isocaloric diets on the growth of *Cichlasoma managuense* (Günther 1869), 631
- Ulloa Rojas J.B., *see* Schippers C.
- Valdés Sanz F., *see* Molina Grima E.
- Verdegem M.C.J., *see* Born A.F.; Schippers C.; Ulloa Rojas J.B.
- Verlhac V. & Gabaudan J.: Influence of vitamin C on the immune system of salmonids, 21
- Waagbø R.: The impact of nutritional factors on the immune system in Atlantic salmon, *Salmo salar* L.: a review, 175
- Wangila B.C.C.: Electrophoretic characterization of three hatchery-reared strains of rainbow trout, *Oncorhynchus mykiss* (Walbaum), 565
- Wickins J.F., *see* Ali Y.O.
- Wilkins N.P., Courtney H.P., Gosling E., Linnane A., Jordan C. & Curatolo A.: Morphometric and meristic characters in salmon, *Salmo salar* L., trout, *Salmo trutta* L., and their hybrids, 505
- Wohlfarth G.W., *see* Gross R.
- Wohlfarth G.W.: The unexploited potential of tilapia hybrids in aquaculture, 781
- Wong J.T.Y. & McAndrew B.J.: Allozyme variation in riverine and lacustrine populations of *Macrobrachium nipponense* (de Haan), 393
- Yagoob M.: The aquaculture of freshwater prawn, *Macrobrachium malcolmsonii* (Milne Edwards), at farmers' level in Pakistan, 355
- Zoccarato I., Benatti G., Bianchini M.L., Boccignone M., Conti A., Napolitano R. & Palmegiani G.B.: Differences in performance, flesh composition and water output quality in relation to density and feeding levels of rainbow trout, *Oncorhynchus mykiss* (Walbaum), farming, 639

Subject index

- African catfish, human chorionic gonadotropin, pituitary extract, 245
Allozyme variation:
Macrobrachium nipponense, 393
noble crayfish, 927
Alternating feeding regime, feeding behaviour, sea bass larvae, 537
Ammonia:
excretion, *Tapes decussatus*, 839
removal, waste water, zeolite tufts, 813
Anarhichas lupus see wolffish, common
Anarhichas minor see wolffish, spotted
Androgen treatment, Nile tilapia, 613
Androgens, masculinization, fighting fish, 373
Aquaculture, Pakistan, freshwater prawn, 355
Arctic charr:
lipid nutrition, 823
microflora, 623
microflora, chromic oxide, 341
osmoregularity, migration, 199
phenotypic and genetic parameters, 677
Ascorbic acid:
ascorbyl-2-monophosphate-magnesium, sea bass, 955
vitamin requirements, Nile tilapia, 269
Ascorbyl-2-monophosphate-magnesium, ascorbic acid, sea bass, 955
Astacus astacus see crayfish, noble
Astaxanthin, vitamin A, Atlantic salmon, 903
Atlantic halibut, behaviour, cages, 475
Atlantic salmon:
astaxanthin, vitamin A, 903
diet, enzyme supplement, 37
failed smolt syndrome, 103
feeding intensity, sea cages, 453
genetic variation, 383
growth, lactate, 861
growth dynamics, 9
immune genes, molecular genetic techniques, 47
immune system, nutritional factors, 175
reproductive strategies, 77
salmon lice, 761
selection, genetic effects, 89
sex inversion, 855
spatial distribution, sea cages, 439
Australian bass, salinity, 579
Austropotamobius pallipes see crayfish, freshwater
Baculovirus, *Penaeus monodon*, 311
Bark, toxicity, Nile tilapia, 873
Barramundi, live food, nutritional enhancement, 143
Behaviour, cages, Atlantic halibut, 475
Benthic algal mats, phytoplankton blooms, *Penaeus monodon*, 235
Betta splendens see fighting fish
Bivalves, triploidy, image analysis, 697
Book reviews:
Aquaculture Research Needs for 2000 AD. Ed. J.-K. Wans & P.V. Dehadrai, 673
Aquaculture Training Manual, D.R. Swift, 765
Environment and Aquaculture in Developing Countries. Ed. R.S.V. Pullin, H. Rosenthal & J.L. Maclean, 676
Fish Farming Technology: Proceedings of the First International Conference on Fish Farming Technology, Norway, 9–12 August 1993. Ed. H. Reinertsen, L.A. Dahle, L. Jorgensen & K. Tvinneim, 674
Genetic Conservation of Salmonid Fishes. Ed. J.G. Cloud & G.H. Thorgaard, 671
Genetics and Evolution of Aquatic Organisms. Ed. A.R. Beaumont, 863
Genetics for Fish Hatchery Managers, Tave, 767
On the Dynamics of Exploited Fish Populations, R.J.H. Bevertton & S.J. Holt, 766
Survey of Fisheries Resources, D.R. Gunderson, 671
Zegers, R. see Goossen, R.H.M.
Cage culture, China, 305
Cages, behaviour, Atlantic halibut, 475
Carotenoid distribution, chinook salmon, 113
Carp:
catla, rohu, mixed feeding schedules, 659
genetic markers, 585
growth, human chorionic gonadotropin, 881
Carp hybrids, diploid gynogenesis, ploidy, 943
Catfish, feeding rate, energy and protein maintenance, 427
Catla, rohu, carp, mixed feeding schedules, 659
Catla catla see catla
Cellular and humoral levels, diet, rainbow trout, 649
Channel catfish, L-lysine supplementation, diet, 465
Chanos chanos see milkfish
Cherax destructor see crayfish, freshwater
China, cage culture, 305
Chinook salmon, carotenoid distribution, 113
Chromic oxide, microflora, Arctic charr, 341
Cichlasoma managuense, isocaloric diets, 631
Clarias anguillaris see catfish, African
Clarias gariepinus see catfish, African
Clarias batrachus see catfish, Indian
Cod, dietary water content, 915
Common carp, secretory function, pituitary gland, 409
Cyprinus carpio see carp, common
Cytometry, ploidy determination, salmonid eggs, 345
Density, feeding levels, rainbow trout, 639
Dicentrarchus labrax see sea bass
Diet:
cellular and humoral levels, rainbow trout, 649
enzyme supplement, Atlantic salmon, 37
L-lysine supplementation, channel catfish, 465
Dietary carbohydrates, metabolizable energy, turbot, 319
Dietary lipid and lecithin levels, *Penaeus monodon*, 279
Dietary water content, cod, 915
Digestibility, formulated diets, tropical catfish, 167
Diploid gynogenesis:

- hydrostatic pressure, fighting fish, 133
 polyploidy, carp hybrids, 943
 Dopamine antagonists, synthetic GnRH analogues, Pacific mullet, 419
 Dried algae diets, Manila clam, 157
 Duckweed, sugarmill effluent, milkfish, 497
- Electrophoretic characterization, rainbow trout, 565
 Energy and protein maintenance, feeding rate, catfish, 427
 Energy utilization, rainbow trout, 213
 Enzyme supplement, diet, Atlantic salmon, 37
 European clam, induced triploidy, 769
 European eel, isozymes, 937
- Failed smolt syndrome, Atlantic salmon, 103
 Fatty acid requirements, gilthead sea bream, 295
 Feeding behaviour, alternating feeding regime, sea bass larvae, 537
 Feeding intensity, sea cages, Atlantic salmon, 453
 Feeding levels, density, rainbow trout, 639
 Feeding rate, energy and protein maintenance, catfish, 427
- Fighting fish:
 diploid gynogenesis, hydrostatic pressure, 133
 masculinization, androgens, 373
- Fish farm, macrobenthos, 55
 Formulated diets, digestibility, tropical catfish, 167
 Formulated feed, organic fertilizer, freshwater prawn, 729
 Fresh food supplements, moulting, lobster, 483
 Freshwater catfish, population density, 753
 Freshwater crayfish:
 mating and spawning, 721
 multi-level refuge utilization, 557
- Freshwater prawn:
 aquaculture, Pakistan, 355
 manure fertilization, 601
 organic fertilizer, formulated feed, 729
- Gadus morhua* see cod
 Genetic effects, selection, Atlantic salmon, 89
 Genetic markers, carp, 585
 Genetic variation, Atlantic salmon, 383
 Gilthead sea bream, fatty acid requirements, 295
 Growth:
 human chorionic gonadotropin, carp, 881
 lactate, Atlantic salmon, 861
- Growth and development, salmon behaviour, 67
 Growth dynamics, Atlantic salmon, 9
 Growth rates, wolffish, 363
- Haliotis midae* see abalone, South African
Hippoglossus hippoglossus see halibut, Atlantic
Homarus gammarus see lobster
 Human chorionic gonadotropin:
 growth, carp, 881
 pituitary extract, African catfish, 245
 Hydrostatic pressure, diploid gynogenesis, fighting fish, 133
- Ictalurus punctatus* see catfish, channel
 Illumination levels, marine teleosts, 687
 Image analysis, triploidy, bivalves, 697
- Immune genes, molecular genetic techniques, Atlantic salmon, 47
 Immune system:
 nutritional factors, Atlantic salmon, 175
 salmonids, vitamin C, 21
 Indian catfish, steroid hormones, salmon gonadotropin, 401
 Induced triploidy, European clam, 769
 Isocaloric diets, *Cichlasoma managuense*, 631
 Isozymes, European eel, 937
- Labeo rohita* see rohu
 Lactate, growth, Atlantic salmon, 861
Lates calcarifer see barramundi
 Lipid nutrition, Arctic charr, 823
 Live food, nutritional enhancement, barramundi, 143
 Lobster, fresh food supplements, moulting, 483
 L-lysine supplementation, diet, channel catfish, 465
- Macquaria novemaculeata* see bass, Australian Macrobenthos, fish farm, 55
Macrobrachium malcolmsonii see prawn, freshwater
Macrobrachium rosenbergii see prawn, freshwater
Macrobrachium nipponense, allozyme variation, 393
 Macro-economic factors, world aquaculture production, 519
 Manila clam, dried algae diets, 157
 Manure fertilization, freshwater prawn, 601
 Marine teleosts, illumination levels, 687
 Masculinization, androgens, fighting fish, 373
 Mating and spawning, freshwater crayfish, 721
 Maturation and artificial fertilization, wolffish eggs, 891
 Metabolizable energy, dietary carbohydrates, turbot, 319
 Microflora:
 Arctic charr, 623
 chromic oxide, Arctic charr, 341
 Migration, osmoregularity, Arctic charr, 199
 Milkfish, duckweed, sugarmill effluent, 497
 Mixed feeding schedules, catla, rohu, carp, 659
 Molecular genetic techniques, immune genes, Atlantic salmon, 47
Morone saxatilis see bass, striped
 Morphometric and meristic characteristics, salmon, trout, 505
 Moulting, fresh food supplements, lobster, 483
Mugil so-iuy see mullet, Pacific
 Multi-level refuge utilization, freshwater crayfish, 557
Mystus nemurus see catfish
- Nile tilapia:
 androgen treatment, 613
 bark, toxicity, 873
 vitamin requirements, ascorbic acid, 269
 Noble crayfish, allozymic variation, 927
 Nutrient budget, shrimp ponds, Thailand, 789
 Nutritional enhancement, live food, barramundi, 143
 Nutritional factors, immune system, Atlantic salmon, 175
- Oncorhynchus mykiss* see trout, rainbow
Oncorhynchus tshawytscha see salmon, chinook
Oreochromis, sex reversal, 329

- Oreochromis niloticus* see tilapia, Nile
Oreochromis spilurus see tilapia
 Organic fertilizer, formulated feed, freshwater prawn, 729
 Osmoregularity, migration, Arctic charr, 199
 Outdoor turbidostat culture, *Tetraselmis* sp., 547
 Overwintering, tilapia, sea water, 865
 Oyster, triploid induction, 6-DMAP, 709
- Pacific mullet, synthetic GnRH analogues, dopamine antagonists, 419
Pagrus pagrus see porgies, red
 Pakistan, aquaculture, freshwater prawn, 355
Penaeus monodon:
 baculovirus, 311
 dietary lipid and lecithin levels, 279
 phytoplankton blooms, benthic algal mats, 235
 Phenotypic and genetic parameters, Arctic charr, 677
 Phytoplankton blooms, benthic algal mats, *Penaeus monodon*, 235
 Pituitary extract, human chorionic gonadotropin, African catfish, 245
 Pituitary gland, secretory function, common carp, 409
Pleuronectes platessa see plaice
 Ploidy determination, cytometry, salmonid eggs, 345
 Polyploidy, diploid gynogenesis, carp hybrids, 943
 Population density, freshwater catfish, 753
 Potassium permanganate, salinity, striped bass, 571
 Proximate composition, South African abalone, 351
- Rainbow trout:
 density, feeding levels, 639
 diet, cellular and humoral levels, 649
 electrophoretic characterization, 565
 energy utilization, 213
 Red porgies, water requirements, 741
 Reproductive strategies, Atlantic salmon, 77
 Rohu, carp, catla, mixed feeding schedules, 659
Ruditapes decussatus see clam, European
 Russia, salmonid farming, 121
- Salinity:
 Australian bass, 579
 potassium permanganate, striped bass, 571
Salmo salar see salmon, Atlantic
Salmo trutta see trout
 Salmon, trout, morphometric and meristic characteristics, 505
 Salmon behaviour, growth and development, 67
 Salmon gonadotropin, steroid hormones, Indian catfish, 401
 Salmon lice, Atlantic salmon, 761
 Salmonid eggs, cytometry, ploidy determination, 345
 Salmonid farming, Russia, 121
 Salmonids, immune system, vitamin C, 21
Salvelinus alpinus see charr, Arctic
Scophthalmus maximus see turbot
 Sea bass:
 ascorbic acid, ascorbyl-2-monophosphate-
- magnesium, 955
 larvae feeding behaviour, alternating feeding regime, 537
 Sea bream, swim bladder development, 849
 Sea cages:
 feeding intensity, Atlantic salmon, 453
 spatial distribution, Atlantic salmon, 439
 Sea water, tilapia, overwintering, 865
 Secretory function, pituitary gland, common carp, 409
 Selection, genetic effects, Atlantic salmon, 89
 Sex inversion, Atlantic salmon, 855
 Sex reversal, *Oreochromis*, 329
 Shrimp ponds, nutrient budget, Thailand, 789
 6-DMAP, triploid induction, oyster, 709
 South African abalone, proximate composition, 351
Sparus aurata see sea bream, gilthead
 Spatial distribution, sea cages, Atlantic salmon, 439
 Steroid hormones, salmon gonadotropin, Indian catfish, 401
 Striped bass, salinity, potassium permanganate, 571
 Sugarmill effluent, duckweed, milkfish, 497
 Swim bladder development, sea bream, 849
 Synthetic GnRH analogues, dopamine antagonists, Pacific mullet, 419
- Tapes decussatus*, ammonia excretion, 839
Tapes philippinarum see clam, Manila
Tetraselmis sp., outdoor turbidostat culture, 547
 Thailand, shrimp ponds, nutrient budget, 789
 Tilapia, overwintering, sea water, 865
 Tilapia hybrids, 781
 Toxicity, bark, Nile tilapia, 873
 Triploid induction, 6-DMAP, oyster, 709
 Triploidy, image analysis, bivalves, 697
 Tropical catfish, digestibility, formulated diets, 167
 Trout, salmon, morphometric and meristic characteristics, 505
 Turbot, metabolizable energy, dietary carbohydrates, 319
- Variable growth rate modification, von Bertalanffy's equation, 259
 Vitamin A, astaxanthin, Atlantic salmon, 903
 Vitamin C, immune system, salmonids, 21
 Vitamin requirements, ascorbic acid, Nile tilapia, 269
 von Bertalanffy's equation, variable growth rate modification, 259
- Waste water, ammonia removal, zeolite tuffs, 813
 Water requirements, red porgies, 741
 Wolffish, growth rates, 363
 Wolffish eggs, maturation and artificial fertilization, 891
 World aquaculture production, macro-economic factors, 519
- Zeolite tuffs, ammonia removal, waste water, 813